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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/348,494	07/07/1999	KJELL GUSTAFSSON	040070-244	5321

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EXAMINER
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LY, NGHI H

ART UNIT	PAPER NUMBER
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2686

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DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/348,494

Applicant(s)

GUSTAFSSON ET AL.

Examiner

Nghi H. Ly

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5 and 14-16 is/are allowed.
- 6) ☒ Claim(s) 1,2,6-13 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 6-13 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art in figure 3 of the present specification in view of Kokusai (JP 07015380A) and further in view of Okuhata (JP 411055168A).

Regarding to claims 1 and 13, the Applicant's admitted prior art disclose a mobile station comprises a first antenna, a second antenna, a radio frequency circuit receiving and processing signal from second antenna and a base band processing circuit receiving and combining processed radio frequency signals from the first radio frequency processing circuit and from the second radio frequency processing circuit (see fig.3).

The Applicant's admitted prior art fails to disclose selectively activating and deactivating the second radio frequency processing circuit based on a determination as to whether diversity is appropriate.

Kokusai disclose selectively activating and deactivating a second radio frequency processing circuit (see fig.1 see antenna 2 and switching circuit) based on a determination as to whether diversity is appropriate (see Basic-Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art to provide the above teaching of Kokusai into the Applicant's admitted prior art so that power consumption is reduced and quality of communication is improved (as suggested by Kokusai, see Basic-Abstract).

The combination of the Applicant's and Kokusai does not specifically disclose the determination is based on demodulated processed radio frequency signals.

Okuhata teaches the determination is based on demodulated processed radio frequency signals (see Solution).

Therefore, it would have been obvious to one of ordinary skill in the art to provide the above teaching of Okuhata into the Applicant's admitted prior art and Kokusai in

Art Unit: 2686

order to prevent the deterioration of reception characteristic at the time of antenna switching (as suggested by Okuhata, see Problem To Be Solved).

As to claim 2, the rejection to claim 1 as set forth above is herein incorporated by reference. In addition, the Applicant's prior art also teaches the first radio frequency processing circuit also transmits signal from the mobile station (see fig. 3 the arrow from the base band processing 340 to RF processing 330).

As to claims 6, 8-12 and 17-20, the above combination teaches the signal strength received at antenna (see Kokusai fig.1 antenna 2) is monitored in order to determine as to whether diversity is appropriate (see Kokusai, Basic-Abstract), instead of signal quality of a demodulated signal, or likelihood comparison, or bit error rate, or frame error rate, or signal to interference ratio, or number of re-transmission required as claimed.

However, using signal quality of a demodulated signal, or likelihood comparison, or bit error rate, or frame error rate, or signal to interference ratio, or number of re-transmission required is known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the above combination as claimed, in order to improve signal quality of a demodulated signal, or bit error rate, or frame error rate, or signal to interference ratio, or number of re-transmission.

As to claim 7, the above combination teaches the claimed limitation (see Kokusai, Basic-Abstract).

***Allowable Subject Matter***

4. Claims 3-5 and 14-16 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 3-5 and 14-16 are allowable with the same reasons as stated in the previous Office Action dated 06/10/2003 (paper number 18).

***Response to Arguments***

5. Applicant's arguments with respect to claims 1, 2, 6-13 and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

On pages 8 to 10 of Applicant's remarks. Applicant argues that Kokusai does not suggest the use of bit error rate, frame error rate, likelihood comparison and signal quality of a demodulated signal that recited in the dependent claims.

In response, however, using signal quality of a demodulated signal, or likelihood comparison, or bit error rate, frame error rate or signal to interference ratio, or number of re-transmission required is known in the art. In addition, Applicant's attention is directed to the rejection of dependent claims 6, 8-12 and 17-20 above (or as indicated by the Examiner in the previous Office Action dated 06/10/2003).

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2686

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (703) 605-5164. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Nghi H. Ly

*1063*  
*12/02/03*

*Marsha D Banks-Harold*  
MARSHA D. BANKS-HAROLD  
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